



For EPA Use Only ID # _____
 SECTOR _____

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 WASHINGTON, D.C. 20460**

**2004 Application for Critical Use Exemption of Methyl Bromide
 for Post Harvest Use in 2006 and beyond in the United States**

**WHY IS THIS
 INFORMATION
 NEEDED?**

Under the Clean Air Act and the international treaty to protect the ozone layer (the Montreal Protocol on Substances that Deplete the Ozone Layer), the production and import of methyl bromide will be phased out in the United States on January 1, 2005. This application seeks information to support a U.S. request to produce and import methyl bromide for certain critical uses and circumstances beyond this 2005 phaseout date.

The information in this application will be used to review whether your use of methyl bromide is "critical" because no technically and economically feasible alternatives are available. In order to estimate the loss as a result of not having methyl bromide available, EPA needs to compare data (commodity prices, revenues, and costs) for your use of methyl bromide with uses of alternative pest control regimens.

If you submit a well documented application with sound reasons why alternatives are not technically and economically feasible, the U.S. government can be a better advocate for your exemption request internationally.

Click on the Instructions tab located at the bottom of the screen for additional information.

The information contained in this application is critical to process and assess the need for methyl bromide. Filling out this application in its entirety will bolster the U.S. government's ability to strengthen the nomination package for the international review boards.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. Public reporting burden for this collection of information is estimated to average 324 hours per response and assumes a large portion of applications will be submitted by consortia on behalf of many individual users of methyl bromide. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a current OMB control number.

INSTRUCTIONS

<p>The information provided by you in this application will be used to evaluate the requested methyl bromide use. The U.S. and other countries that are parties to the Montreal Protocol On Substances That Deplete The Ozone Layer decided that: "a use of methyl bromide should qualify as "critical" only if the nominating Party determines that:</p> <p>(i) The specific use is critical because the lack of availability of methyl bromide for that use would result in a significant market disruption; and</p> <p>(ii) There are no technically and economically feasible alternatives available to the user that are acceptable from the standpoint of environment and health and are suitable to the crops and circumstances of the nomination ..."</p>		
WHO APPLIES?	<p>If you anticipate that you will need methyl bromide in 2006 because you believe there are no technically and economically feasible alternatives, then you should apply for the critical use exemption. This application may be submitted either by a consortium representing multiple users or by individual users. We encourage users with similar circumstances of use to submit a single application (for example, any number of post harvest users with similar commodity, pest, and structural conditions can submit a single application.)</p> <p>If a consortium is applying for multiple methyl bromide users, the economic data should be for a representative or typical user within the consortium unless otherwise noted. If economic or technical factors (such as types of commodities) affecting the ability of this "representative user" to use alternatives are significantly different than other users in the consortium, more than one application should be submitted to reflect these differences.</p> <p>Please contact your local, state, regional or national commodity association and/or state representative agency to find out if they plan on submitting an application on behalf of your commodity group.</p>	
STATE CONTACTS	States that have agreed to participate in the exemption process are listed on EPA's website at www.epa.gov/ozone/mbr/cueqa.html	
HOW DO I APPLY?	You may either complete an electronic (Microsoft Excel) or a printed version of the application. Please fill out each form or worksheet in the application as completely as possible. If you are completing the printed version and need extra space you may attach additional sheets as needed. Additional information may be available from your local state department of agriculture or at the sites listed below or by calling 1-800-296-1996.	
IS MY INFORMATION CONFIDENTIAL?	<p>The applicant may assert a business confidentiality claim covering part or all of the information in the application by placing on (or attaching to) the information, at the time it is submitted to EPA, a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as trade secret, proprietary, or company confidential. Allegedly confidential portions of otherwise non-confidential documents should be clearly identified by the applicant, and may be submitted separately to facilitate identification and handling by EPA. If the applicant desires confidential treatment only until a certain date or until the occurrence of a certain event, the notice should so state. Information covered by a claim of confidentiality will be disclosed by EPA only to the extent, and by means of the procedures set forth under 40 CFR Part 2 Subpart B; 41 FR 36902, 43 FR 400000. 50 FR 51661. If no claim of confidentiality accompanies the information when it is received by EPA, it may be made available to the public by EPA without further notice to the applicant.</p> <p>Applicants submitting their application via e-mail assume responsibility for the confidentiality of the electronic message transmission.</p>	
WHEN IS THE INFORMATION NEEDED?	This application must be postmarked to the EPA address below no later than August 8, 2004 or 90 days after the Notice was published in the <u>Federal Register</u> requesting critical use exemption applications, whichever is later.	
WHERE DO I SUBMIT THE APPLICATION?	<p>Electronic Address for applications: methyl.bromide@epa.gov</p> <p>When submitting an application electronically, you should also print a hard copy, sign it, and submit it by mail</p>	
	<table border="1"> <tr> <td> <p>Mailing Address for applications being submitted by mail directly to the EPA:</p> <p>US Environmental Protection Agency Methyl Bromide Critical Use Exemption Office of Air and Radiation Global Programs Division (6205 J) 1200 Pennsylvania Ave, NW Washington, DC 20460</p> </td><td> <p>Address for applications being sent by <u>courier</u> or <u>non-U.S. Postal overnight express</u> delivery to the EPA:</p> <p>US Environmental Protection Agency Methyl Bromide Critical Use Exemption Office of Air and Radiation Global Programs Division 1310 L Street, NW Washington DC 20005 Telephone: (202) 343-9321</p> </td></tr> </table>	<p>Mailing Address for applications being submitted by mail directly to the EPA:</p> <p>US Environmental Protection Agency Methyl Bromide Critical Use Exemption Office of Air and Radiation Global Programs Division (6205 J) 1200 Pennsylvania Ave, NW Washington, DC 20460</p>
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HOW CAN I RECEIVE ADDITIONAL INFORMATION?	<p>If you have general questions about this application call:</p> <p>Stratospheric Ozone Hotline 1-800-296-1996</p>	

INSTRUCTIONS

SECTIONS OF WORKBOOK	Each worksheet number corresponds to the tab number in the electronic version of the application. Instructions specific to each worksheet are provided at the top of each sheet. A header row is included on each worksheet to include an application ID number that EPA will assign.
	Instructions
	Worksheet 1. Contact and Methyl Bromide Request Information
	Worksheet 2. Methyl Bromide
	Worksheet 2-A. Methyl Bromide - Pest and Processing Information
	Worksheet 2-B. Methyl Bromide - Historical Use for 1997 - 2002
	Worksheet 2-C. Methyl Bromide - Commodity Treated & Gross Profit for 2000 - 2002
	Worksheet 2-D. Methyl Bromide - Operating Costs for 2002
	Worksheet 3. Alternatives
	Worksheet 3-A. Alternatives - Technical Feasibility of Alternatives to Methyl Bromide
	Worksheet 3-B. Alternatives - Changes in Operating Costs
	Worksheet 4. Future Research Plans
	Worksheet 5. Application Summary
	Definitions
	Climate Zone Map
EXCEL USER TIPS	Inserting a blank worksheet:
	1. To add additional blank worksheets in the Excel file, go to the menu line at the top of the worksheet and select "Insert" then "worksheet"
	2. A tab with the name "Sheet 1" will appear at the bottom of the worksheet and will be highlighted in white. Take the cursor and double click the "new tab"
	3. By double clicking in the tab you can now rename the worksheet to the appropriate number letter designation (e.g., 3-A(1), 3-A(1)(a), etc.)
	4. To move a newly inserted worksheet, simply drag the worksheet with your mouse to the desired location.
	5. Once you add a new worksheet, Excel will automatically name each subsequently added worksheet as Sheet 2, Sheet 3, etc... Follow the instructions above to rename the new blank worksheets as appropriate.
	Copying and pasting an entire worksheet's contents into a blank worksheet:
	1. Select the worksheet to be copied by clicking on the worksheet tab at the bottom of the screen. The tab will turn white in color when it has been selected.
	2. Select the top left corner of the worksheet (this is the space to the left of column A and above row 1. You will know that the entire worksheet has been selected because the row and column marks as well as the worksheet itself
	3. Go to the menu line at the top of the worksheet and select "Edit" then "Copy".
	4. Go to the blank worksheet where you want the copied information to be pasted.
	5. Again, select the top left corner of the worksheet (left of column A and above row 1) to select the entire worksheet.
	6. Go to the menu line at the top of the worksheet and select "Edit" then "Paste"
	7. Change the title row of the newly pasted worksheet from the old worksheet number to be consistent with the worksheet tab.
	Note: This is the only way you can copy a worksheet and not lose portions of the text instructions.
	Viewing worksheets
	Worksheets are best viewed in "Page Break Preview." To select the view of the worksheet, go to the menu bar and select "View" and then "Page Break Preview." Page break preview shows only the printable area of the worksheet, with the blue lines that surround the screen indicating the edges of each page.
	To increase or decrease the size of the page that is viewable on the screen, go to the menu bar and select "View" and then "Zoom".
	Navigating between worksheets
	The set of four arrows on the bottom left of the screen will help you navigate between worksheets. This is necessary to access the remaining worksheet tabs in the workbook that are not viewable. The two arrows with vertical lines to either the left or right will take you to the first worksheet and to the last worksheet respectively in the workbook. The inner two arrows allow you move the worksheet tabs to the right or to the left incrementally.
	The two arrows on the bottom right of the screen allow you to move the worksheet that you are viewing to the right or to the left. This is useful if the viewable area of on the screen is smaller than the entire page that is in the worksheet.
	Printing worksheets
	If you would like to print all worksheets that are contained in this workbook, go to the menu bar at the top of the screen and select "File" and then "Print." Then in the section of the menu that appears called "Print what," select "Entire Workbook."

Worksheet 1. Contact and Methyl Bromide Request Information

The following information will be used to determine the amount of methyl bromide requested and the contact person for this request. It is important that we know whom to contact in case we need additional information during the review of the application.

Is this information Confidential Business Information (CBI)?

Yes

☐

No

☐

If yes, the applicant assumes responsibility for the secure transmission of electronic submissions.

Applicant Name

Primary Contact

Contact Name

Address

Specialty

(Check One)

Agronomic

☐

Economic

☐

Daytime Phone

E-mail Address

Cell Phone

Fax

Alternate Contact

Contact Name

Address

Specialty

(Check One)

Agronomic

☐

Economic

☐

Daytime Phone

E-mail Address

Cell Phone

Fax

I certify that all information contained in this document is factual to the best of my knowledge.

Signature

Date

Print Name

Title

Information in this application may be aggregated with information from other applications and used by the United States government to justify claims in the national nomination package that a particular use of methyl bromide be considered "critical" and authorized for an exemption beyond the 2005 phaseout. Use of aggregate data will be crucial to making compelling arguments in favor of critical use exemptions. **By signing below**, you agree now to assert any claim of confidentiality that would affect the disclosure by EPA of aggregate information based in part on information contained in this application.

Signature

Date

Print Name

Title

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. Public reporting burden for this collection of information is estimated to average 324 hours per response and assumes a large portion of applications will be submitted by consortia on behalf of many individual users of methyl bromide. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a current OMB control number.

Worksheet 1. Contact and Methyl Bromide Request Information

1. Location

(Enter the state, region, or county. Provide more details about the location if relevant to the feasibility of alternatives to methyl bromide.)

2. Commodity

(Include all commodities that benefit from the application of methyl bromide in a fumigation cycle. See the Worksheet entitled "Fumigation Cycle" for definitions.)

3. Range of structure/facility size by processors included in this application?

(Insert number or percentage of users in each category)

0 to 1,000 (1,000 cu ft)	_____	10,000 to 50,000 (1,000 cu ft)	_____
1,000 to 5,000 (1,000 cu ft)	_____	50,000 to 100,000 (1,000 cu ft)	_____
5,000 to 10,000 (1,000 cu ft)	_____	over 100,000 (1,000 cu ft)	_____

Climate

(Individual users should enter their climate zone designation by reviewing the U.S. climate zone map located at the end of this workbook or it can be reviewed online at <http://www.usna.usda.gov/Hardzone/ushzmap.html>. If a consortium is submitting this application, please indicate the estimated percentage of consortium users in each climate zone.)

4. (Average Minimum Temperature)

Zones: 1 _____ 2a _____ 2b _____ 3a _____ 3b _____ 4a _____ 4b _____ 5a _____ 5b _____ 6a _____ 6b _____
(check all that apply) 7a _____ 7b _____ 8a _____ 8b _____ 9a _____ 9b _____ 10a _____ 10b _____ 11 _____

5. Is this applicant eligible for Quarantine and Preshipment (QPS) uses of methyl bromide?

Yes ☐ Amount _____
No ☐

6. Have you previously applied for Critical Use Exemption of Methyl Bromide?

Yes ☐ CUE # _____
No ☐

7. What is the amount of methyl bromide being requested by this application? (Do NOT include QPS amounts)

If a consortium is submitting this application, the data should be the total for the consortium.

Year	Total Pounds Active Ingredient (a.i.) of Methyl Bromide	Total Volume (1,000 cu ft) to be Treated
2006	_____ lbs.	_____ (1,000 cu ft)
2007	_____ lbs.	_____ (1,000 cu ft)
2008	_____ lbs.	_____ (1,000 cu ft)

8. Please explain why there may be variations in the pounds or volume (1,000 cu ft) treated from year to year.

9. Please explain why methyl bromide is being requested.

10. Do you have access to recycled methyl bromide?

Yes ☐ _____ Lbs
No ☐ If yes, please specify amount (in pounds).

11. Do you anticipate that you will have any methyl bromide in storage after January 1, 2006?

Yes ☐ _____ Lbs
No ☐ If yes, please specify amount (in pounds).

Worksheet 2. Methyl Bromide

Purpose of Data: To establish a baseline estimate of commodity treated, gross profits, and costs using methyl bromide.

Instructions specific to each worksheet are located at the top of each sheet.

Worksheet	Title
2-A	<p><u>Methyl Bromide - Pest and Commodity Information</u></p> <p>If a consortium is submitting this application, the data for this table should reflect the representative user for the consortium.</p> <p>The purpose of this worksheet is to determine pest infestation and commodity information where methyl bromide is used. This forms the baseline for evaluating the impacts of using an alternative to replace methyl bromide.</p>
2-B	<p><u>Methyl Bromide - Historical Use 1998 - 2003</u></p> <p>If a consortium is submitting this application, all data should reflect the actual data for the consortium. This worksheet provides data in actual usage for 1998-2003.</p>
2-C	<p><u>Methyl Bromide - Commodity Treated and Gross Profits for 2001-2003</u></p> <p>If a consortium is submitting this application, the data for this table should reflect the representative user for the consortium.</p> <p>This worksheet provides commodity treated and gross profits for 2001 through 2003.</p> <p>The purpose of this worksheet is to determine past gross profits when methyl bromide is used. This forms the baseline for evaluating the revenue impacts of using an alternative to replace methyl bromide.</p>
2-D	<p><u>Baseline - Operating Costs for 2003</u></p> <p>If a consortium is submitting this application, the data for this table should reflect the representative user for the consortium.</p> <p>This data is needed to estimate a baseline for operating costs in order to estimate changes in costs and the impact on operating profit and short-run economic viability as a result of not using methyl bromide.</p> <p>The purpose of this worksheet is to determine operating expenses when methyl bromide is used. This forms the baseline for evaluating the cost impacts of using an alternative to replace methyl bromide. The data requested are designed to help you identify how your operation would change if methyl bromide were unavailable, which will be shown in Worksheet 3-B.</p>

Worksheet 2-A. Methyl Bromide - Pest & Processing Information

1. Commodity or Consortium _____

2. What month does your fumigation cycle start? (check only one)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Fumigation Timeline

(Indicate when fumigation, major commodity and pest management practices typically occur. If the fumigation cycle is longer than one year change the months to an appropriate interval.)

Beginning Fumigation Cycle	Time Interval _____ (e.g. WEEKS/MONTH/YEAR/SEASON)										
(please define time periods)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Facility Preparation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sealing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cleaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fumigation Timeline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reception of Raw Materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Processing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Raw Materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Finished Product	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Packing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Retail Market Window	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Pest Treatments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Please provide a simplified schematic diagram which illustrates the basic steps of the commodity moving through the process from raw material to finished product.

4a. Provide a narrative of market channel for each commodity, where it is fumigated, and how the fumigation effects market availability and commodity sale.

Worksheet 2-A. Methyl Bromide - Pest & Processing Information

5. **Target Pest(s) or Pest Problem(s):** (Please identify the top 3 target pests or pest problems. Provide at least common name and genus and species if possible. Additional pests or pest problems can be provided as an attachment.)

	Common Name	Genus	
Pest 1			
Pest 2			
Pest 3			

6. **Pest Economic Threshold** (If available, please provide the economic threshold information for each pest, units, and source of information.)

	Economic Threshold	Units (e.g. pests/cu ft)	Source
Pest 1			
Pest 2			
Pest 3			

7. **Target Pest Infestation** (Please estimate the percentage of this user's total structural/facility volume with a moderate to severe problem with these pests. Describe source of information such as a survey or expert estimate.)

	Percentage of Total Structure/Facility	Source
Pest 1	%	
Pest 2	%	
Pest 3	%	

8. **Representative User :** (Please provide descriptive factors appropriate for your operation.)

Volume of Facility/Structure Treated with Methyl Bromide: _____ 1,000 cu ft

Volume of Commodity Treated with Methyl Bromide: _____ 1,000 cu ft

Rate of Application per Fumigation: _____ pounds / _____

Dimension of Structure/Facility: _____ X _____ X _____ feet

Total Commodity Treated per Year: _____ Tons (short)

Commodity Treated per Fumigation: _____ Tons (short)

9. In what part and phase of the operation does the methyl bromide fumigation take place? (check all that apply)

Structure / Facility	<input type="checkbox"/>	Fumigation Chamber	<input type="checkbox"/>
Commodity	<input type="checkbox"/>	Prior to Storage	<input type="checkbox"/>
Storage	<input type="checkbox"/>	Prior to Shipping	<input type="checkbox"/>
All	<input type="checkbox"/>		
Other	<input type="checkbox"/>		

10. What percentage of the operation have alternative(s) replaced methyl bromide in processing this commodity and if so, during what phase of the process?

Alternative	% Replaced	Phase of Process	Details
Phosphine (Alone)			
Heat Treatment			
Phosphine in Combination			
Other			

11. Please provide a brief description of any equipment fumigated in this operation.

Worksheet 2-B. Methyl Bromide - Historical Use 1998-2003

Column A:	Total Actual Pounds ai of Methyl Bromide Applied Enter the total actual pounds active ingredient (ai) of methyl bromide applied. Note: This number should be the total pounds ai applied by the individual user or the entire consortium, for the year indicated. Include only the pounds active ingredient of methyl bromide.
Column B:	Total Actual Volume (1,000 cu ft) Treated Enter the total actual volume (1,000 cu ft) treated. Note: This number should be the total actual volume (1,000 cu ft) treated by the individual user or total actual volume (1,000 cu ft) treated for the entire consortium, for the year indicated.
Column C:	Average Pounds ai Applied per Volume (1,000 cu ft) The average application rates in pounds ai of methyl bromide per volume (1,000 cu ft) may be calculated by dividing Column A by Column B.
Column D:	Total Weight of Commodity Treated (in Tons (short)) Enter the total actual weight (tons (short)) treated. Note: This number should be the total actual weight (tons (short)) treated by the individual user or total actual weight (tons (short)) treated for the entire consortium, for the year indicated.
Column E:	Average Pounds ai Applied per Volume (1,000 cu ft) The average application rates in pounds ai of methyl bromide per ton (short) may be calculated by dividing Column C by Column D.

Should your operation only measure fumigation in one type of unit (e.g. only the facility is treated or only the commodity is treated), please use appropriate column for volume or weight.

	A	B	C	D	E
Year	Total Actual Pounds ai of Methyl Bromide Applied	Total Actual Volume (1,000 cu ft) Treated	Average Pounds ai Applied per Volume (1,000 cu ft)	Total Weight of Commodity Treated (in Tons (short))	Average Pounds ai Applied per Ton (short)
1998					
1999					
2000					
2001					
2002					
2003					

What is the frequency of methyl bromide applied per volume (1,000 cu ft)? (1x / year, 2x / year, 1x / 3 years, etc.)

_____ times per _____

If there is a variation (greater than 10%) in the quantity a.i., the volume (1,000 cu ft) treated or average application rate from year to year, please explain the reasons for the variation.

Comments:

Post Harvest

Worksheet 2-D. Methyl Bromide - Operating Costs for 2003

The purpose of this worksheet is to determine operating expenses when methyl bromide is used. This forms the baseline for evaluating the cost impacts of using an alternative to replace methyl bromide. The data requested are designed to help you identify how your operation would change if methyl bromide were unavailable, which will be shown in Worksheet 3-B.

Please fill in the unshaded areas. The shaded areas can be used if the information is known.

Column A:	Operating Expense Items Identify the operations to which the costs apply. You may add or delete lines as necessary. The operating expense items listed here are not meant to be exhaustive or be representative of your specific operating system. Other operating expenses include, but are not limited to, wage/salary, advertising and selling, utilities, rent and lease, insurance, and supplies. Be as precise as necessary to explain how lack of methyl bromide would affect your operation, otherwise you may aggregate operating expenses. These are meant to provide suggestions and to help you identify how your operation would change if methyl bromide were unavailable.
Column B:	Quantity Used per Volume (1,000 cu ft) or Weight (tons (short)) This field is required only for methyl bromide. However you may include specific amounts of other inputs or operations if you believe it helps to document the additional costs you would incur by using an alternative fumigant.
Column C:	Units (lbs. hours, etc.) For all inputs and operations detailed in Column B, please specify the units of measurement.
Column D:	Unit Cost (\$) For all inputs and operations detailed in Column B, please specify the unit cost. Also, indicate all costs of applying methyl bromide, including any material costs (e.g. tarps). If custom applied and separate costs are unavailable, write 'custom' and enter total cost in Column E.
Column E:	Cost (\$) per Volume (1,000 cu ft) or Cost (\$) per Weight (tons (short)) Enter all appropriate costs of operations per volume (1,000 cu ft) or weight (tons (short)). You may add or delete lines as necessary. <i>If operation is defined in either cost per volume or cost per weight, please keep the continuity of units.</i>

A	B	C	D	E
Operating Expense Items	Quantity Used per Volume (1,000 cu ft) or Weight (Tons (short))	Units (lbs, hours, etc.)	Unit Cost (\$)	Cost (\$) per Volume (1,000 cu ft) or Cost (\$) per Weight (tons (short))
1. Pest Management Costs (a+b+c+d)				
a) Sanitation				
b) Pest Control				
c) Methyl Bromide Fumigation (c1+c2)				
c1) Product				
c2) Application				
d) Other Pest Management Costs				
2. Repairs / Maintenance / Replacement				
3. Interest				
4. Depreciation for Plant Assets				
5. Other Operating Expenses				
TOTAL OPERATING COSTS				

Worksheet 3. Alternatives - Feasibility of Alternative Pest Control Regimens

Purpose of Data: To estimate the loss as a result of not having methyl bromide available. EPA needs to compare data (commodity prices, gross profit, operating expenses, etc.) on the use of methyl bromide and alternative pest control regimens.

Complete worksheet 3-A for each alternative pest control regimen listed in the "U.S. Matrix" for chemical controls (www.epa.gov/ozone/mbr/cueqa.html) and the "International Matrix" for non-chemical pest controls (www.epa.gov/ozone/mbr/cue). Each worksheet contains a place holder in the title for you to insert the name of the specific alternative pest control regimen addressed. You should add additional worksheets as required.

Enter all alternative pesticides and pest control methods (and associated profit and production practices) that would replace one treatment of methyl bromide throughout the fumigation cycle. See the Definition worksheet for a comprehensive definition on fumigation cycles.

Worksheet	Title
3-A	<p>Alternatives - Technical Feasibility of Alternatives to Methyl Bromide</p> <p>You must complete one worksheet for each alternative. Please insert the name of the alternative in the area on top of the page. If you prefer, you may provide the information requested in this worksheet in a narrative review. However, you must fill in the information in Question #1 or we will assume no production or quality loss.</p>
3-B	<p>Alternatives - Changes in Operating Costs</p> <p>If a consortium is submitting this application, the data for this table should reflect the representative user for the consortium.</p> <p>This data is needed to estimate a baseline for operating costs in order to estimate changes in costs and the impact on operating profit and short-run economic viability as a result of not using methyl bromide and to provide required information to the international review board.</p> <p>Please fill out this worksheet for each alternative specified in the U.S. Matrix and for other alternatives for which the economic evaluation would bolster the case that methyl bromide is needed.</p> <p>The purpose of this worksheet is to determine operating expenses when alternatives are used for evaluating the cost impacts of using an alternative to replace methyl bromide. The data requested are designed to help you identify how your operation would change if methyl bromide were unavailable.</p>

Worksheet 3-A. Alternatives - Technical Feasibility of Alternatives to Methyl Bromide

Alternative: _____ **[Insert Alternative]**

1. Pest Control When Comparing This Alternative to Methyl Bromide (Provide numerical estimates where possible.)

Study #	Pest Being Tested	% Pest Control	Scale of Study (e.g. pilot, plot)	Resulting Damages (please specify)
1				
2				
3				
4				
5				

2. Study Information For the cited studies above, please list: study name, authors, publication, date, and indicate with a checkmark if a copy is attached and if it is on the EPA website.

Study #	Copy?	EPA?	Details
1			
2			
3			
4			
5			

3. Are there any production delays (downtime) associated with this alternative? Yes ☐ No ☐

If yes, please continue with 3a, 3b, 3c.

3a. Please specify the number of days per year of downtime: _____ days/year

3b. What is the cost of production delays or downtime per year? \$ _____ per year

3c. Please explain the details of going into downtime and why it is necessary with this alternative.

4. What is the estimated probability of the commodity not meeting consumer quality standards with and without methyl bromide or alternative treatments? (please explain.)

5. Restrictions/Limitations on Alternative Use This information will be used to determine the amount of methyl bromide needed.

	% of Structure/Facility/Volume	Details
Regulatory Restriction		
- Label Restriction		
Climate Restriction		
Pest Resistant To Alternative		
Structural Limitations		
Facility Limitations		
Other Restrictions/Limitations (Describe)		

6. Why is this alternative not suitable to replace 100% of methyl bromide use in processing this commodity?

Worksheet 3-A. Alternatives - Technical Feasibility of Alternatives to Methyl Bromide

Alternative:
[Insert Alternative]
7. Use Rate of Chemical Alternative

Active Ingredient (a.i.)	Name of Product and Formulation	Quantity per Volume (1,000 cu ft)	Units (gals, lbs. Etc.)	Volume (1,000 cu ft) Treated	# of Applications per Year

8. Non-Chemical Pest Control (please describe)

2. Fumigation Timeline (Indicate when fumigation, major commodity and pest management practices typically occur. If the fumigation cycle is longer than one year change the months to an appropriate interval.)

Fumigation Cycle	Time Interval (e.g. WEEKS/MONTH/YEAR)											
	1	2	3	4	5	6	7	8	9	10	11	12
Facility Preparation												
Sealing												
Cleaning												
Fumigation Timeline												
Reception of Raw Materials												
Processing												
Storage												
Raw Materials												
Finished Product												
Packing												
Shipping												
Retail Market Window												
Other Pest Treatments												
Other												

Comments:

Worksheet 3-B. Alternative - Changes in Operating Expenses

Alternative:
[Insert Alternative]

Please fill in the unshaded areas. The shaded areas can be used if the information is known.

Column A:	Operating Expense Items Identify the operations to which the costs apply. You may add or delete lines as necessary. The operating expense items listed here are not meant to be exhaustive or be representative of your specific operating system. These are meant to provide suggestions and to help you identify how your operation would change if methyl bromide were unavailable.
Column B:	Quantity Used per Volume (1,000 cu ft) or Weight (tons (short)) This field is required only for alternatives. However you may include specific amounts of other inputs or operations if you believe it helps to document the additional costs you would incur by using an alternative fumigant.
Column C:	Units (lbs. hours, etc.) For all inputs and operations detailed in Column B, please specify the units of measurement.
Column D:	Unit Cost (\$) For all inputs and operations detailed in Column B, please specify the unit cost. Also, indicate all costs of applying alternatives, including any material costs (e.g. tarps). If custom applied and separate costs are unavailable, write 'custom' and enter total cost in Column E.
Column E:	Cost (\$) per Volume (1,000 cu ft) or Cost (\$) per Weight (tons (short)) Enter all appropriate costs of operations per volume (1,000 cu ft) or weight (tons (short)). You may add or delete lines as necessary. <i>If operation is defined in either cost per volume or cost per weight, please keep the continuity of units.</i>

A	B	C	D	E
Operating Expense Items	Quantity Used per Volume (1,000 cu ft) or Weight (Tons (short))	Units (lbs, hours, etc.)	Unit Cost (\$)	Cost (\$) per Volume (1,000 cu ft) or Cost (\$) per Weight (tons (short))
1. Pest Management Costs (a+b+c+d)				
a) Sanitation				
b) Pest Control				
c) Fumigation (c1+c2)				
c1) Product				
c2) Application				
d) Other Pest Management Costs				
2. Repairs / Maintenance / Replacement				
3. Interest				
4. Depreciation for Plant Assets				
5. Other Operating Expenses				
TOTAL OPERATING COST				

What are the additional new investments (structures, facilities, equipment, fumigation chambers, etc.) needed to utilize this alternative?

Establish necessary capital expenditures required for the uses of alternatives. For example, the incremental costs to convert to heat treatment might include installing a steam heating system, purchasing generators, installing necessary ductwork, and retrofitting other components to make them amenable to heat treatment.

Type of Investment	Total Investment (\$)	Life of Investment (# of years)	Salvage Value (\$)	Interest Rate (%)

Comments:

Worksheet 4. Future Research Plans

Please describe future plans to test alternatives to methyl bromide. You may use this worksheet to describe all future plans.

1. Identify the top 3 to 5 target pests for your research.

1 _____ 2 _____ 3 _____	4 _____ 5 _____
-------------------------------	--------------------

2. Provide a list of alternative chemicals or cultural practices that have been tested.

1 _____ 2 _____ 3 _____	4 _____ 5 _____
-------------------------------	--------------------

3. Prioritize the alternative chemicals or cultural practices to be tested.

1 _____ 2 _____ 3 _____	4 _____ 5 _____
-------------------------------	--------------------

4. What would be the best currently available alternative if methyl bromide were not available?

5. Please provide an overview/timeline of the plan to transition away from using methyl bromide.

6. Will you collect data on the probability of failure to meet quality standards?

7. How will you minimize your use and/or emissions of methyl bromide?

(check all that apply)	<input type="checkbox"/> Formulation Changes (please specify) <input type="checkbox"/> Tarpaulin (High Density Polyethylene) <input type="checkbox"/> Virtually Impermeable Film (VIF) <input type="checkbox"/> Reclamation <input type="checkbox"/> Cultural Practices (please specify) <input type="checkbox"/> Other Pesticides (please specify) <input type="checkbox"/> Sealing Buildings <input type="checkbox"/> Integrated Pest Management (IPM) <input type="checkbox"/> Non-Chemical Methods (please specify) <input type="checkbox"/> Other	<table border="1" style="width: 100%;"> <tr> <th colspan="2" style="text-align: center;">Formulation Changes</th> </tr> <tr> <td style="width: 30%;">From:</td> <td>_____ % methyl bromide, _____ % chloropicrin</td> </tr> <tr> <td>To:</td> <td>_____ % methyl bromide, _____ % chloropicrin</td> </tr> </table> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	Formulation Changes		From:	_____ % methyl bromide, _____ % chloropicrin	To:	_____ % methyl bromide, _____ % chloropicrin
Formulation Changes								
From:	_____ % methyl bromide, _____ % chloropicrin							
To:	_____ % methyl bromide, _____ % chloropicrin							

8. What is the cumulative amount spent and the types of contributions this consortium has made to fund research to develop alternatives to methyl bromide since 1992? (e.g. consortium dues, direct research funding, etc.)

Year	Name of Organization / Research Institution	Amount (\$)

9. Other total investments, if any, made to reduce your reliance on methyl bromide?

\$ _____

(Describe each investment and its associated costs. e.g. specialized machinery, new facilities, etc.)

Investment	Cost

10. Grant requests made to USDA, EPA, state, or other funding group.

Definitions:

Fumigation cycle:	The period of time between methyl bromide fumigations.
Year:	If a fumigation cycle overlaps more than one calendar year, "year" refers to the calendar year when methyl bromide is applied (or the beginning of the cycle).
Comparable data:	In order to compare revenues and costs with and without methyl bromide, data on alternatives for pest control, yields, revenues, and costs must be for the same time interval as the methyl bromide fumigation cycle. If, however, quantitative data, is not available for the entire fumigation cycle, then to be comparable, the quantitative data for the alternatives should cover the same portion of the fumigation cycle as the quantitative data for methyl bromide, and the rest of the cycle should be discussed in the comments sections.
2-year example:	If a methyl bromide fumigation is made every 2 years, then the 2001 fumigation cycle began in 2001 and would end in 2003. The data should cover the methyl bromide costs and usage for the methyl bromide fumigation made in 2001, and all yields and revenues received and other costs incurred during the 2 year period. To be comparable, the data on alternatives should cover a similar 2 year period beginning in 2005 beginning at the same time of year when a methyl bromide fumigation would be made. The data should cover all methyl bromide alternatives used, and all yields and revenues received during that 2-year interval. Other pest control and other costs would only need to be provided for that interval if they would change from what they were with methyl bromide.
Other beneficiary example	If someone other than the applicant benefits from a methyl bromide fumigation, you should comment on these benefits if you do not have quantitative data for the entire fumigation cycle. For example, if a rotational crop in the second year benefits from a methyl bromide fumigation a year earlier, but there is quantitative data only on the first crop, then the data on the alternatives should cover only the first crop, and the benefits of methyl bromide and the additional pesticides that would have to be used on the rotational crop should be discussed in the comments sections.
Crop cycle change example:	If in a one year interval, methyl bromide is applied, tomatoes are grown and harvested followed by peppers, then the fumigation cycle would be one year including the tomatoes and peppers. If, however, without methyl bromide, it is not possible to follow tomatoes with peppers in the same one year interval, then the alternative data on pesticides, costs, yields, and revenues should just cover tomatoes. The loss of profit from not being able to grow peppers with the alternatives would be part of the loss from not having methyl bromide.
Crop Grouping	<p>The applicant can group similar crops together if:</p> <ul style="list-style-type: none"> (i) Crops would experience similar yield and quality losses in the absence of methyl bromide; and (ii) Crops are grown on the same fumigation and cultivation cycle with similar operating costs. <p>For example, nursery crops including various flower or tree species can be aggregated, with average yields per acre and prices. However, if crops are distinctly different in revenues and operating costs, or the cycles, the applicant may want to present yield, price and operating costs for each crop separately and also indicate the proportion of land area allocated to each crop.</p>

USDA Plant Hardiness Zone Map

